For Soil Subgrade Modulus …

Soil Subgrade Modulus = K= Pressure/deformation

Pressure= Allowable bearing pressure

Deformation = Allowable settlement in the foundation

For example

Allowable Bearing pressure is **200 kPa** and allowable settlement **is 25 mm**.

The Soil Subgrade modulus will be

$$K= \frac{200}{(25)/1000}=8000\, kN/m^3$$ or 8000 kPa/m

CHECKS

Pressure under footing	<	200 kPa	(OK)
Deformation under footing	<	25 mm	(OK)
Punching Shear Check [Preferable should be less than 0.9]	<	1	(OK)

Tips-

If you are failing in any check, go towards for the change in……. the inputs….. …like change geometry (Length, width and thickness of the footing) and material property etc.

Note:

Allowable settlement for Isolated Footing = 25 mm

Allowable settlement for MAT/RAFT = 50 mm